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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,134	06/25/2003	Erin Francom	100202851-1	4006

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EXAMINER	
DESTA, ELIAS	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,134	FRANCOM ET AL.	
	Examiner	Art Unit	
	Elias Desta	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20 and 21* is/are rejected.

7)☒ Claim(s) *1-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Drawing

1. The drawing is objected to because of the following minor informalities:

- Fig. 4B: "Density" should be "Current Density";
- Fig. 4C: "Density" should be "Power Rail Density"; and
- Figs. 6 and 7: "Current/Material Ratio" should be "Current/Material Density Ratio.

Abstract

2. The abstract of the disclosure is objected to because of the following minor informalities:

Page 15, line 6: delete the word "wire".

Specification

3. The specification is objected to because of the following minor informalities:

- Page 2: paragraph 6, line 6: change "the plurality of power wire densities" to "the plurality of power densities" as noted in Fig. 1, step 104 of the instant application; and
- Page 9, paragraph 35, line 1: change "This plot 600" to "Fig. 6";

Claim Objection

4. *Claim 1, 20 and 21* are objected to because of the following minor informalities:

In reference to claim 1, 20 and 21, the claims call for "comparing the plurality of current densities and the plurality of *power wire densities*". However, based on the step noted Fig. 1 step 104 of the instant application, the phrase should read as "comparing the plurality of current densities and the plurality of *power densities*". *In claim 21*, change the word "forming" to "*comparing*".

Claims 2-19 are objected to the extent that they inherit the elements of the independent claim 1.

Claim rejection – 35 U.S.C. 101 & 112

5. *Claims 20 and 21* are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well-established utility.

In the specification the Applicant has stated that the system is designed for analyzing power in a component (see the Abstract of the instant application), and yet the preamble of claims 20 and 21 do not specify or indicate that the invention is used to analyze power in a component.

Claims 20 and 21 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

In order to over come the deficiencies, one suggestion would be to include the underlined phrase as noted in claim 1 as follows:

- Claim 20: " A system *for analyzing power in a component* comprising: ..." and
- Claim 21: "A computer program product *for analyzing power in a component* having a computer readable medium, the product comprising: ...".

Conclusion

6. Citation of pertinent prior art:

- *Boethig et al.* (U.S. Patent 6,028,440) teaches estimation of voltage drop and current densities in ASIC power supply mesh.
- *Sakai et al.* (IEEE Article, 'Critical Current Densities and Magnetic Hystersis Losses in Sub-micron Filament Bronze-Processed Nb_3Sn Wires') teaches the effects of alloy additions in Nb_3Sn Wires.

- *Rosenthal et al.* (IEEE Article, 'MHD Modeling of Conductors at Ultra-High Current Density') teaches method of characterizing joule heating, magnetic field diffusion, material deformation, pressure and velocity over a range of current densities.
- *Keyes* (IEEE Article, 'Fundamental Limits of Silicon Technology') teaches a case study of semiconductor component miniaturization that provides a means to reduce capacitances and maintains a low voltage operating point.
- *Fujikami et al.* (U.S. PAP 2001/0054509) teaches super-conducting cable and method of analyzing critical current loss.
- *Takahashi et al.* (U.S. Patent 4,989,062) teaches a semiconductor integrated circuit device having multi-layer power supply lines in which a power supply line at a lowest layer level can be formed with decreased width of the line.
- *Maekawa et al.* (U.S. Patent 6,741,086) teaches a system that provides a member for removing foreign matter adhering to the spherical tip portion of a test probe, which is put into contact with the bonding pads of a semiconductor chip to test the action of a semiconductor chip.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta
Examiner
Art Unit 2857

-ed

December 1, 2004

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800